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May 16, 2000

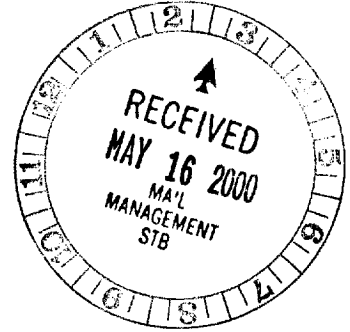
**Via HAND DELIVERY**

Honorable Vernon A. Williams  
Secretary  
Surface Transportation Board  
1925 K Street, N.W.  
Washington, D.C. 20423

RECEIVED  
Office of the Secretary

**MAY 16 2000**

Part of  
Public Record



**Re: STB Ex Parte No. 582 (Sub-No. 1), Major Rail Consolidation Procedures**

Dear Secretary Williams:

Accompanying this letter are the original and twenty-five (25) copies of the Comments of the Association of American Railroads and supporting Verified Statement for filing in STB Ex Parte No. 582 (Sub-No. 1), Major Rail Consolidation Procedures. Also attached is a diskette containing the Comments in Word Perfect 7.0. As discussed with the Office of the Secretary, we are submitting the supporting Verified Statement on the attached compact disk. These Comments have been served on all parties of record, as indicated on the attached Certificate of Service.

Please do not hesitate to call the undersigned if you have any questions.

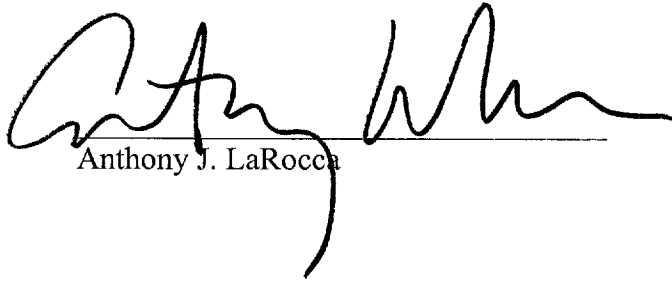
Sincerely,

Samuel M. Sipe, Jr.  
Counsel for the Association  
of American Railroads

Enclosures

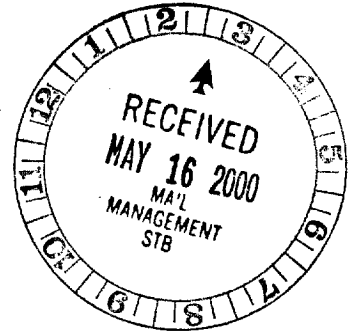
**CERTIFICATE OF SERVICE**

I hereby certify that on the 16<sup>th</sup> day of May, 2000, a true and correct copy of the attached document was served by first-class mail on all parties of record.



Anthony J. LaRocca

**BEFORE THE  
SURFACE TRANSPORTATION BOARD**



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**EX PARTE NO. 582 (Sub-No. 1)**  
**MAJOR RAIL CONSOLIDATION PROCEDURES**

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**ENTERED  
Office of the Secretary**

**MAY 16 2000**

**Part of  
Public Record**

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**COMMENTS OF  
THE ASSOCIATION OF AMERICAN RAILROADS**

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Counsel for the Association of  
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Dated: May 16, 2000

**BEFORE THE  
SURFACE TRANSPORTATION BOARD**

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**EX PARTE NO. 582 (Sub-No. 1)**

**MAJOR RAIL CONSOLIDATION PROCEDURES**

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**COMMENTS OF  
THE ASSOCIATION OF AMERICAN RAILROADS**

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**INTRODUCTION**

The Association of American Railroads ("AAR") submits these comments in response to the Board's March 31, 2000 Advance Notice of Proposed Rulemaking ("ANPR") in the captioned proceeding. AAR represents the interests of the nation's major freight railroads. Its members operate 77 percent of the rail route miles in the United States, employ 91 percent of rail employees and generate 93 percent of U.S. rail freight revenues.

Individual AAR member railroads are submitting separate comments in which they present their positions on the specific issues as to which the Board has sought comment in this proceeding. AAR presents in these comments the industry's views on the appropriate framework in which to consider proposed changes in the rail merger policy. AAR's comments are supported by the attached verified statement of Craig F. Rockey.

The pricing freedoms and other reforms of the Staggers Act have allowed railroads to make significant progress toward financial viability and improved rail service, although much remains to be accomplished. It is very important that any changes in rail merger policy adopted in this proceeding not have the effect of undermining the railroads' ability to make continued needed investments in the rail infrastructure.

It is also critically important that the Board distinguish in this proceeding between the direct effects of rail mergers, which are the legitimate subject of rail merger policy, and the day-to-day conduct of rail commerce and operations, which is not the proper subject of merger policy. AAR is concerned that some parties to this proceeding will seek to transform an inquiry into rail merger policy into a broad effort to reregulate the rail industry. The Board should steadfastly resist any such efforts to reregulate the industry through the "back door."

### **THE FRAMEWORK FOR APPROPRIATE RAIL MERGER POLICY IN THE CURRENT ENVIRONMENT**

The regulatory reforms of the Staggers Rail Act of 1980 and the fundamental economics of railroading provide the framework for evaluating proposed changes to the Board's merger policy. AAR describes below the essential components of that framework and urges the Board to look at specific proposals in the context of that framework.

1. The pricing freedoms and other regulatory reforms of the Staggers Act have been critical to the health of the railroad industry.

As the Board revisits its rail merger policy, it should bear in mind the lessons of the past regarding the effects of pervasive and inflexible regulation on the health of the railroad industry. Prior to the Staggers Rail Act of 1980, railroads were subject to a regulatory regime that imposed long and extensive reviews to adjust joint rates and routes, construct new lines and abandon existing unprofitable lines. The prevailing regulation ignored the emergence of strong competition from trucks and it kept railroads from earning sufficient revenues to maintain and replace the railroad infrastructure. By the late 1970's, the industry was on the brink of disaster. Almost a third of America's Class I railroads were in bankruptcy, the American taxpayer was supporting rail service in the Northeast, and much of the country's rail infrastructure was deteriorating. Nationalization of the rail industry was a real possibility.

The enactment of the Staggers Act and the implementation of market-based regulation turned the freight rail industry around. Productivity improved, traffic volume increased and investment grew while rates declined and the railroads' safety record dramatically improved. Although today's rail service is certainly not optimal, the service that shippers have today is far superior to that of the pre-Staggers era because the railroad network is stronger and more efficient. This resurgence of a private-enterprise railroad industry was attributable in critical part to the recognition by the Board and the ICC before it that railroads operate in a largely competitive market and they must have the flexibility to price their services and manage their operations in the same manner as their non-regulated competitors. In particular, the pricing freedom of the Staggers Act was critical to the survival of the railroad industry because it gave rail management the tools to grapple with the daunting challenges of railroad economics.

Railroading is an extraordinarily capital intensive business. Railroads require four to five times as much capital spending per dollar of revenue as the average for all manufacturing industries. Heavy, up-front capital costs must be incurred to create the rail infrastructure and to maintain and improve it. Consequently, the incremental or variable costs of moving any particular piece of traffic (e.g., the costs of labor, fuel and rolling stock) are typically much lower than the average or "fully allocated" costs associated with that traffic, including rail infrastructure costs and other fixed and common costs.

The existence of high fixed and common costs does not, on its own, create the unique challenge of railroad cost recovery. If railroads could charge all customers prices reflecting the fully allocated costs of a particular movement, their viability would not be at risk. But railroads face strong competition from other railroads and other modes of transportation, particularly trucks, for most of their traffic, and this competition prevents them in most instances from

charging prices that reflect average cost. Thus, on many movements, the prices railroads can charge and still attract the business allow for very limited contribution to the fixed and common costs of the network. While these movements make some contribution to fixed and common costs, their below-average contribution must be offset by traffic that makes significantly greater contribution to those costs if the railroad network is to survive.

A related aspect of railroad economics is that railroads are characterized by significant economies of density. Economies of density mean that average costs per unit of traffic handled over a segment of the rail infrastructure decrease as more units of traffic are added to that segment, up to the point at which additional rail capacity is required to handle additional traffic. It is thus considerably easier to recover the costs associated with high density segments of the rail infrastructure than those associated with low density segments.

The foregoing factors – the need for immense amounts of capital, the existence of widespread competition, and the economies of density – make it imperative that railroads be permitted to price their services in response to the demand for their service. Demand-based pricing gives railroads the necessary opportunity to generate enough revenue to cover both the costs attributable to each of its specific moves and all of its common costs. Specifically,

- (1) railroads must have the flexibility to charge shippers with relatively inelastic demand (e.g., shippers with few competitive alternatives) rates that exceed average or fully allocated cost to offset the rates paid by other shippers that are below average or fully allocated costs; and
- (2) railroads must also be able to charge shippers with relatively elastic demand (e.g., those that have more competitive alternatives) rates low enough to induce them to move their traffic by

rail.<sup>1</sup> The ICC and the Board have repeatedly acknowledged that the ability to engage in such differential pricing is critical to the viability of the railroad industry.

In addition to pricing freedom, the Staggers Act introduced market-based reforms in other areas of railroad regulation. These reforms allowed railroads to abandon unprofitable rail lines and to dispose of other non-productive assets. The mandatory maintenance of inefficient interchanges, routes and joint-line rates was eliminated, assisting railroads in achieving economies of density. The Staggers Act also prompted the adoption of market-based regulatory principles to protect the interests of captive shippers, such as those embodied in the Board's *Coal Rate Guidelines*.

The regulatory scheme implemented under the Staggers Act has served the public interest well, benefiting consumers of rail services and railroads themselves. The Staggers Act reforms have allowed the railroads to rationalize their networks, improve their revenues through differential pricing, and secure capital to maintain and upgrade their physical plants and invest in productivity, service and safety improvements. As discussed in the attached Statement of Craig Rockey, an economist with the AAR, major gains in productivity have been realized. Cost savings resulting from this increased productivity have been passed on to shippers in the form of lower rates, with rates for rail transportation declining 57% in real terms since 1981. *See* Rockey V.S. at 13. The safety record of America's railroad has improved by enormous strides. Accidents are down 53% since 1981 and injuries and illness are down 66% for the same period. *Id.* at 11. Investment in critical infrastructure has improved service across the network.

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<sup>1</sup> In the attached Verified Statement, Mr. Rockey describes differential pricing in more detail and explains how it benefits all rail shippers. *See* Rockey V.S. at Fig. 15 and corresponding text.



Between 1983 and 1999, the Class I railroads invested \$77 billion (in nominal dollars), with real capital outlays per route mile steadily increasing. In constant dollars, capital expenditures per route mile in 1999 were 247% of the railroads' corresponding 1983 expenditures. *Id.* at Fig. 1.

Although progress has been made in restoring the financial health of America's freight railroads, the industry has still not achieved the level of profitability necessary to ensure its long-term viability. For the period 1995-1999, the railroad industry's cost of capital averaged 11.5%, still well above the industry's average return on investment of 7.8% for that period. *Id.* at Fig. 13. By any relevant measure of profitability, the nation's railroads still lag far behind other industries. As long as railroads remain unable to offer investors a reasonable prospect of returns as attractive as those investors can obtain elsewhere, the railroads will be hampered in securing the capital they need to strengthen further the rail network and to improve service.

2. New infrastructure spending is critical to further improvements in service and productivity.

As discussed by Mr. Rockey, the dramatic increases in productivity achieved after the Staggers Act will be difficult to replicate in the future since the easiest means for increasing productivity – e.g., shedding unproductive assets and reducing labor costs – have already been implemented. Further improvements in railroad productivity will depend in part on the ability of the railroads to make future investments in the railroad infrastructure. Mr. Rockey shows how infrastructure investment affects productivity, and how the investments made since the Staggers Act have allowed the railroads to improve their service and at the same time reduce rates. He also explains that the railroads are reinvesting most of their available cash flow in infrastructure, but they also continue to rely heavily on outside sources of capital to fund necessary improvements to roadways and structures, to operating and communications equipment, and to repair and maintenance.

The need for increased rail infrastructure spending is widely acknowledged. Shipper demand for rail service is increasing. Measured on a ton-mile basis, rail traffic has increased 57% from 1981 to 1999 and demand continues to grow as the economy expands. *See* *Rockey* V.S. at 13. But the railroads cannot accommodate this increasing demand without investments that expand capacity, overcome existing capacity constraints, improve communication and information systems, and modernize locomotive and car fleets. The demands of sophisticated shippers for flexible and responsive rail service will require in many instances additional infrastructure funded by private capital.

The need for infrastructure improvements in the railroad network became apparent during the implementation of some recent mergers. The Board recognized that service problems experienced during the integration of the UP and SP networks were largely attributable to inadequate infrastructure and insufficient capacity: "the evidence shows that this [service] emergency was caused in large measure by a transportation infrastructure in and around Houston that is not adequately equipped to deal with natural surges in a growing economy."<sup>2</sup> Service problems associated with the Conrail transaction were attributable in part to congestion in capacity-constrained terminals.

The Board's merger policy should take into account the relationship between mergers and infrastructure investment. In particular, it would be appropriate for the Board to assure itself that the merging railroads have the financial capacity to make infrastructure investments necessary to avoid service disruptions in the course of merger-related integration. As discussed below, the Board should also resist efforts to transform merger rules into a vehicle for imposing

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<sup>2</sup> STB Service Order No. 1518 at 6 (Feb. 17, 1998).

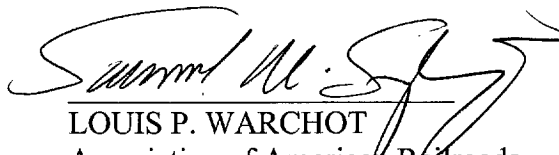
non-merger related conditions on merging railroads, thereby siphoning revenues away from necessary infrastructure investments.

3. New regulatory burdens imposed through the merger review process would weaken the railroads, discourage needed investment and undermine service.

AAR is concerned that some parties may use the occasion of this merger rulemaking proceeding to seek reregulation of the rail industry and thereby undo the benefits of the Staggers Act. Using its review of railroad mergers as a vehicle for expanding competitive access, imposing permanent access for service shortfalls following a merger, or imposing other regulatory burdens would be contrary to the letter and spirit of the Staggers Act. Such regulatory measures would also be counterproductive because they would decrease the ability and incentive for the railroads to make the investments necessary to provide the level of service shippers demand.

AAR supports efforts by the Board to ensure that its merger policy guards against harm to the public interest. But the Board's merger policy should be limited to addressing the direct effects of rail mergers. The Board should reject proposed merger policy changes that are not intended to address harmful effects of proposed mergers and would simply siphon scarce revenues away from the applicants, thereby reducing the capital that would otherwise be available for infrastructure investment. The Board should also guard against efforts to use this proceeding as a forum for promoting changes in regulatory philosophy – such as a liberalized approach to reciprocal switching – that could become a bellwether for reregulation outside of the merger context. Some parties seeking revenue transfers through renewed regulation seem willing to ignore the adverse effects of such reregulation on the railroads' financial health and their ability to provide adequate service, but the Board must not.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Louis P. Warchot", written over a horizontal line.

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Counsel for the Association of  
American Railroads

May 16, 2000

# ROCKEY

BEFORE THE  
SURFACE TRANSPORTATION BOARD

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EX PARTE NO. 582 SUB-NO. 1  
MAJOR RAIL CONSOLIDATION PROCEDURES

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VERIFIED STATEMENT  
OF  
CRAIG F. ROCKEY  
VICE PRESIDENT  
ASSOCIATION OF AMERICAN RAILROADS

MAY 16, 2000

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**VERIFIED STATEMENT**

**OF**

**CRAIG F. ROCKEY**

My name is Craig F. Rockey. I am Vice President-Policy of the Association of American Railroads (AAR), which has offices at 50 F Street, N.W., Washington, D.C. 20001. I have previously testified before the Surface Transportation Board (STB) and its predecessor, the Interstate Commerce Commission (ICC), concerning a variety of topics of industry-wide importance. I am knowledgeable of the current and past economic and financial environment within which the U.S. freight railroads operate and I have extensive experience with the specific economic regulatory provisions applicable to railroads, and their respective ramifications. A summary of my experience is attached hereto.

I was asked by the railroad industry to discuss some of the central considerations in the long-term sustainability of the U.S. freight railroad system. These are considerations that must be kept in mind in the current STB review of merger policy. Specifically, this statement reviews the amount of capital required to sustain a vigorous freight railroad industry in this country; briefly chronicles the investment that our nation's railroad companies have made in the current partially deregulated regulatory setting toward meeting those infrastructure and other needs; and highlights some of the benefits that increased investment has generated. In addition, I examine railroad earnings relative to other U.S. industries and the importance of demand-based or differential pricing to the railroad industry's financial success.<sup>1</sup>

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<sup>1</sup> The data presented are for the most recent year available at the time of writing, which in many cases is 1999 (though all 1999 data should be considered preliminary) and in other cases is 1998 or before.



## I. Railroads' Capital Needs

The stimulus for railroad economic reform legislation during the 1970s and in 1980 was the realization that, under the then-existing circumstances, the rail industry was no longer a self-sustaining, viable component of the U.S. transportation system. Massive amounts of federal aid (upwards of \$7.4 billion over more than a decade) were needed to prop up the Northeast rail system alone.<sup>2</sup> The deplorable state of America's railroads was in large part a result of inadequate infrastructure investment. Estimates of deferred maintenance and delayed capital improvements exceeded \$4 billion<sup>3</sup>, more than 25 percent of the industry's annual operating revenue. Significant stretches of track were under slow orders, ancient bolted rails were supported by badly deteriorated ties, and crumbling ballast was inadequate to maintain proper drainage and protect the roadway. In the worst places, there were "standing derailments," when the track could no longer support even a car that was not moving. In addition, cars and locomotives were frequently "bad ordered" due to their condition.

By the late 1970s, there was widespread recognition that America's rail network was underfunded, and that by 1985 there would be a capital shortfall within the railroad industry of between \$16 and \$20 billion (\$23-28 billion in current terms).<sup>4</sup> Indeed, although it was recognized as a highly undesirable course of final resort, serious consideration was given to nationalization of the country's rail system.

The federal government wisely chose instead to rely on the competitive marketplace. The enormous benefits that have accrued to rail shippers, the national economy in general, and railroads themselves have been made possible because railroads have been permitted to take economically appropriate actions, including massive capital investments, with the *opportunity* to earn returns sufficient to cover their cost of operations.

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<sup>2</sup> Congress of the United States, Congressional Budget Office, *Economic Viability of Conrail*, August 1986, p. 2. The \$7.4 billion figure does not include all Conrail-related aid, nor does it recognize the \$1.9 billion proceeds from the privatization of Conrail in 1987.

<sup>3</sup> U.S. Department of Transportation, *A Prospectus For Change In The Freight Railroad Industry*, October 1978, p. 24. This amount excludes the maintenance backlog of Conrail.

<sup>4</sup> See the findings of the *Staggers Rail Act of 1980*, Sec. 2(7).

The railroad industry's problems during the pre-deregulation era underscored the reality that rail transportation requires vast levels of capital investment for in-ground facilities such as track, signals, and structures; for locomotives and freight cars; for communications and data processing; and for technology research, development, and implementation.

The amount of capital required to sustain the railroad industry is extremely high both within American industry, in general, and among the railroad industry's most prominent competitors. In 1998, Class I railroads<sup>5</sup> required an average of \$2.31 of net investment in rail assets for every \$1.00 of operating revenue they produced.<sup>6</sup> According to the most recent available comparable U.S. Bureau of the Census data, railroads' capital expenditures averaged 16.1 percent of revenue, compared to an average of just 3.5 percent for all manufacturing.<sup>7</sup>

As shown in Table 1, data for Fortune 500 firms in selected industries that are major rail shippers or competitors reveal that on the basis of total assets required per dollar of revenue produced, railroads have significantly higher asset needs — \$2.57 of assets for each dollar of revenue produced.<sup>8</sup> The 15 chemical companies among the Fortune 500, for instance, have only \$1.42 in assets for each dollar of revenue produced and the 37 utilities average only \$2.23 in assets, while the two trucking firms average only 50 cents in assets per dollar of revenue. In aggregate, the

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<sup>5</sup> As of the end of 1998, there were nine railroads categorized as "Class I" by the STB. These carriers each generate in excess of \$259.4 million per year in revenue and, as of 1998, collectively represented 71 percent of the freight railroad industry mileage operated, 89 percent of the employees, and 91 percent of the freight revenues.

<sup>6</sup> \$76.5 billion in railroad average net investment and \$33.2 billion in operating revenue. Comparable figures for immediately previous years are \$2.12 for 1997, \$1.97 for 1996, \$1.81 for 1995, \$1.71 for 1994, and \$1.75 for 1993.

<sup>7</sup> The figure for all manufacturing is from the Census Bureau's 1996 *Annual Survey of Manufactures*, issued in February 1998; the rail figure is for 1996 and is based on data contained in the R-1 annual reports. The rail figure rose to 21.7 percent in 1998 and 19.8 percent in 1999.

<sup>8</sup> This figure for railroads is based upon the *assets* of the *railroad holding companies*, whereas the Class I figure given above, \$2.31 of net investment per dollar of revenue, is based upon the *net investment* of *railroad* operations. Railroad operations account for the majority of total holding company revenue.

127 industrial firms in the sectors listed had, on average, \$1.46 in assets per dollar in revenue — just 57 percent of the railroad figure.

**Table 1: Ratio of Assets to Revenues**

<b>Industry</b>	<b>Number of Firms</b>	<b>Total Revenues (\$ billions)</b>	<b>Total Assets (\$ billions)</b>	<b>Ratio of Assets to Revenues</b>
Chemicals	15	\$114.4	\$162.1	1.42
Food	22	178.6	116.2	0.65
Forest & Paper Products	11	106.3	134.0	1.26
Industrial & Farm Equipment	11	81.2	88.3	1.09
Metals	8	44.2	54.6	1.24
Mining, Crude Oil Production	3	17.0	24.6	1.45
Motor Vehicles & Parts	14	452.8	634.6	1.40
<b>Railroads</b>	<b>4</b>	<b>36.4</b>	<b>93.6</b>	<b>2.57</b>
Trucking	2	8.8	4.4	0.50
Gas & Electric Utilities	37	266.3	594.8	2.23
<b>Total</b>	<b>127</b>	<b>\$1,306.0</b>	<b>\$1,907.2</b>	<b>1.46</b>

Source: *Fortune*, April 17, 2000 pp. F-1–F-20.

## **II. Deregulation Provided the Necessary Stimulus For Capital Investment in Railroad Infrastructure**

The Staggers Act and market-based regulation implemented by the ICC and the STB created a climate in which railroads have, every year, made substantial capital investments in their plant and equipment in order to handle growing traffic levels<sup>9</sup> on a streamlined rail network.

Significantly, the railroads' improved economic outlook has enabled them to raise funds without dependence on the Federal government.

Given the opportunity to compete in the marketplace, and more freedom to rationalize their physical plant — which together offered the potential of earning a competitive return on their investments — railroads began a major transformation. In the resulting deregulated environment, the Class I railroads have been ridding themselves of duplicative and unproductive roadway, while upgrading and maintaining the remaining trackage to higher standards than ever

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<sup>9</sup> Rail ton-miles rose 57 percent from 1981 (the first full year following passage of Staggers) to 1999; intermodal traffic rose 187 percent during this period.

before — standards that would permit them to carry higher volumes of traffic at faster speeds under safer conditions. Marginal lines have been sold to regional and local railroad operators, while uneconomic routes have been abandoned.

Investments in the remaining core system have produced a significantly higher quality of roadbed (improved ballast materials, properly graded), new and larger crossties, and welded rail with significant metallurgical advances. These improvements have enhanced safety — yielding a 71 percent reduction in the rate of track-related accidents since 1980 — and raised efficiency through higher speeds, heavier cars, and less need for disruptive unscheduled maintenance.

From 1983 (the first year under which depreciation accounting was used for roadway investments<sup>10</sup>) until 1999, railroads have invested \$53.8 billion in roadway and structures. In 1999 alone, roadway and structures capital expenditures amounted to \$4.4 billion. Over the most recent five years, road and structure investments were made in the following average proportions: rail and other track materials, 32 percent; ties, 18 percent; ballast, 11 percent; signaling systems, 9 percent; and bridges, trestles, and culverts, 6 percent. The remaining 23 percent were directed toward a wide variety of areas such as intermodal terminal facilities, shops and office buildings, communications systems, and roadway and shop machinery.

Railroad investment has not been limited to roadways and structures. Freight cars, locomotives, and other equipment comprise another huge cost category. In 1999 alone, the Class I railroads incurred \$2.2 billion in capital expenditures for equipment. The largest portion of these expenditures was dedicated to rolling stock: 58 percent (\$1.3 billion) went for locomotives and 28 percent (\$608 million) for freight cars. The bulk of the remaining 14 percent was directed toward computer systems.

Figure 1 shows total Class I constant dollar capital expenditure outlays on way and structures and equipment per mile of road owned, from 1983 (the first year of ratable depreciation) to 1999.

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<sup>10</sup> Effective in 1983, the Interstate Commerce Commission required the railroads to begin reporting road and structure expenditures on a Ratable Depreciation basis. Previously, these expenditures were accounted for on a Retirement, Replacement, Betterment basis. Figures from one accounting system are not directly comparable to figures from the other.

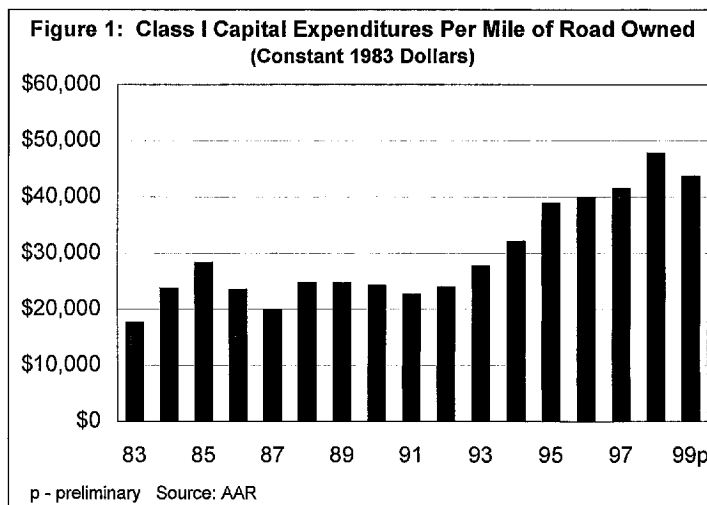
Rail spending has trended upward during the period, and sharply upward during the most recent seven years.

In addition to the capital expenditures for upgrading and improving roadway and structures, the railroads spend significant sums annually for routine repair and maintenance activities. The physical changes brought about by the expensed and capitalized projects are identical; the only difference is their accounting treatment. In 1999, roadway and structure operating

expenses amounted to \$5.2 billion. Taken together, 1999 capitalized and expensed outlays for roadway and structures (after adjustment for depreciation)<sup>11</sup> totaled \$7.7 billion.

Equipment outlays include expensed as well as capitalized funding. In fact, because of their higher level of ongoing maintenance requirements per original investment dollar, the expensed amounts for rolling stock are considerably higher than the capitalized amounts. In 1999, for instance, there was \$2.2 billion in Class I equipment capital funding and \$7.7 billion in locomotive and freight car expenses. The total equipment outlays during 1999 were \$8.6 billion (again, after adjustment for depreciation expenses).

Taken together, total outlays (capitalized and expensed costs) for both roadway and structures and for equipment totaled \$16.2 billion for Class I railroads in 1999. This extraordinary level of funding — equal to 48 percent of industry operating revenues in 1999 — is required year after year to provide the high quality assets necessary for the rail industry to operate efficiently. Indeed, during the 1990s to date, Class I railroads have committed nearly \$140 billion toward the



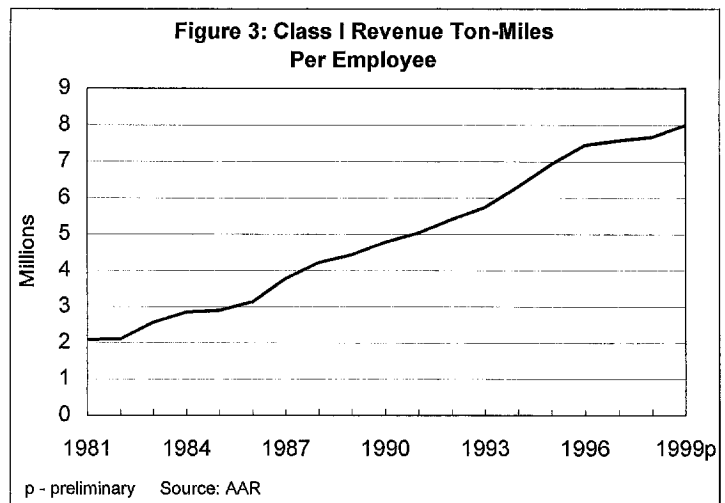
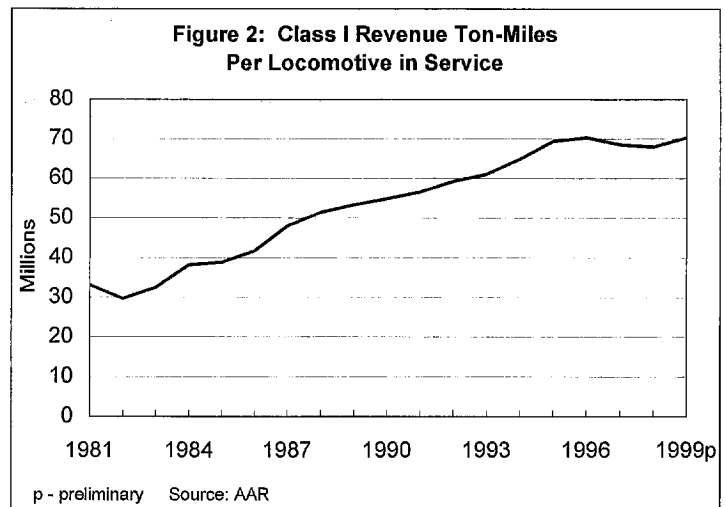
<sup>11</sup> While the actual sum of the 1999 outlays was \$9.7 billion (\$4.5 billion in capital expenditures plus \$5.2 billion in expenses), the \$2.0 billion in 1999 roadway and structure depreciation was subtracted from the expense figure, since it effectively represents capital expenditures that would have been claimed in prior years

improvement and maintenance of their infrastructure and rolling stock, without the need for government support.

### III. Post-Staggers Investments Have Improved Productivity and Safety

The result of railroads' capital investments has been exceptional productivity and efficiency gains. Those productivity advances, measured in various ways, are detailed in the following graphs. Figures 2 through 5 show 1981-1999 Class I revenue ton-mile output (effectively the work product of the rail industry) per unit of various inputs (locomotives in service, number of employees, gallons of fuel consumed and miles of road operated). These figures show rapidly advancing gains starting immediately upon the inception of deregulation. From 1981-1999, locomotive, employee, fuel, and road productivity increased by 112 percent, 284 percent, 58 percent, and 129 percent, respectively.

These are the result of significant upgrades in railroads' track structure, rolling stock, and communications capabilities. Research and development has also spawned technological advances including: (1) the Automatic Equipment Identification system, which generates and transmits information on the location and status of individual freight cars by transponders on the cars that are read by stationary readers positioned strategically across the rail network; (2) installation of lower maintenance, better performing welded rail; (3) development of optimal track grinding and

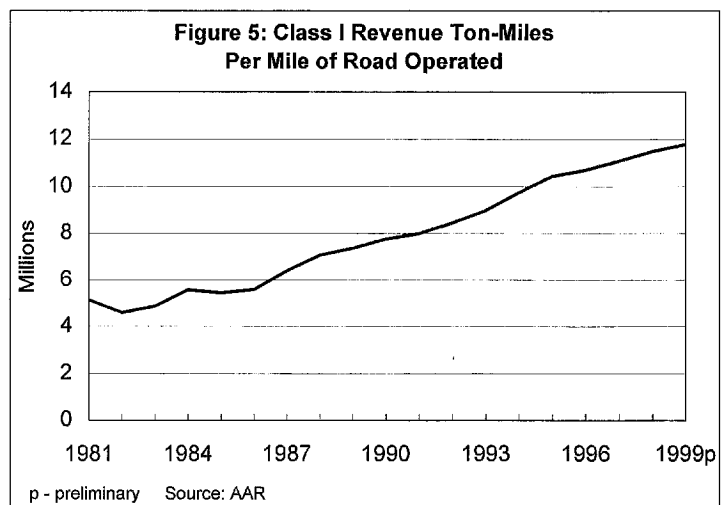
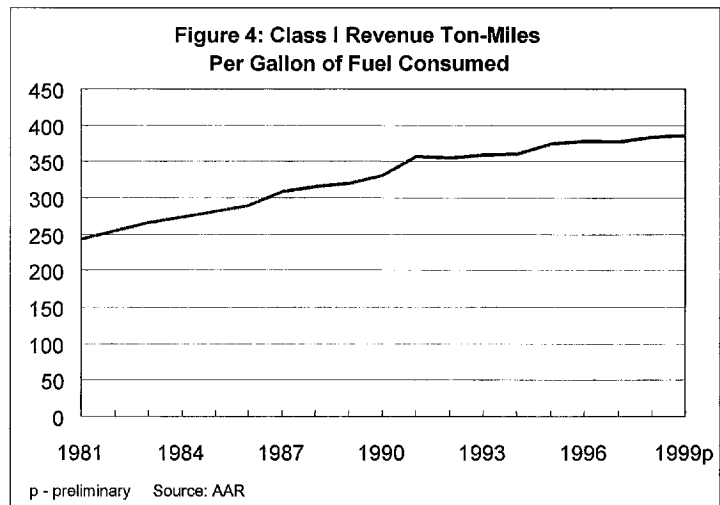


other maintenance techniques which extend rail life far beyond that previously possible; (4) adoption of heat-treated, curved-plate wheels that substantially reduce the propensity for wheel damage and, therefore, derailments; and (5) new car designs that allow for greater lading-to-tare ratios, enhanced aerodynamics, and damage prevention capabilities. These developments, and many others, enhance railroad infrastructure, prolong the life and reliability of operating components, and diminish maintenance requirements.

Investments in the information arena have also improved productivity. Specialized software and formalized industry reference inventories have been established containing geographical location nomenclature, specific naming conventions for railroads and shippers, routing patterns, junction points, mileage tables, equipment

registration, shipment conditions, etc. These computerized and accessible data bases, along with freight car repair and operating standards, allow for consistency among the operating freight railroads and promote safety, efficiency, ease of doing business (for both carriers and shippers), and bottom-line savings through the reduction of rework to correct errors and inefficiencies.

Productivity has also been improved through rationalization of the freight railroad employee base. Reductions in employment rolls, such as occurred with train operating crews and clerks, were applied to most railroad functions. But like the costs associated with physical assets, there are very real and large outlays (in effect, an investment in future productivity) required in effecting an orderly realignment of personnel. The costs incurred from the early retirement,

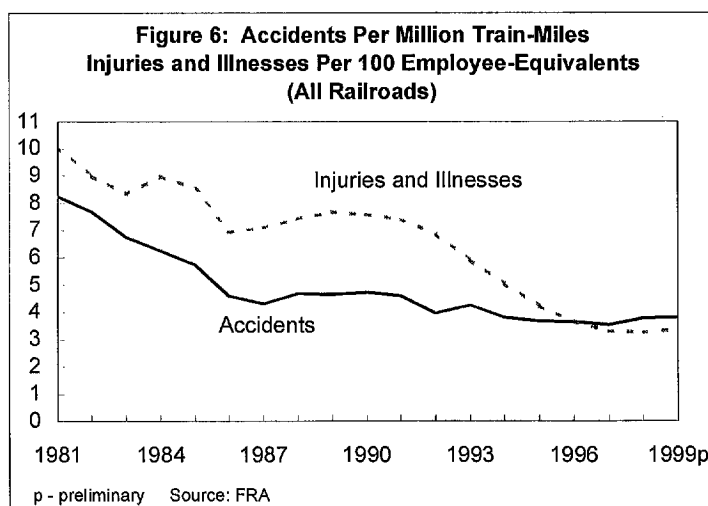


separation, and other employee programs cost the Class I carriers over \$7.4 billion in special charges alone since 1985. Also, assets which have depreciated faster than originally anticipated, are technologically obsolescent, or are otherwise deemed unproductive have been "written down" from the book values. Special charges associated with these transactions amounted to at least \$3.4 billion since 1985.

As part of re-sizing of the railroad route structure, Class I carriers invested not only more heavily, but also more selectively in their operating assets. Segments that are uneconomical for larger carriers became available for local and regional railroad entrepreneurs. Instead of being abandoned in the Class I rationalization process, those properties that are sold not only preserve rail service for the businesses and communities affected, but also boost the productivity of the railroad system by creating efficient and cost-effective rail operations to serve local customers and provide feeder service in combination with the trunk line carriers.

The railroads' investments have paid off handsomely with regard to improvements in safety.

Figure 6 illustrates the extraordinary safety achievements of the railroads resulting from an emphasis on safety management and from safety-related investments. These trends are in stark contrast to the safety record prior to deregulation. Accidents per million train-miles have been driven down 53 percent (from 8.25 to 3.85) from 1981-1999, while injuries and illnesses per hundred employees (per year) have been forced down by 66 percent (to 3.38 from 10.08).



Cost reductions, productivity enhancements, and safety programs have been so successful that U.S. rail carriers — which lead the world in route miles and tons carried — are the undisputed world leaders in efficient, low-cost freight railroad operations. The U.S. preeminence in railroading was recently capsulated by Lou Thompson, railways advisor at the World Bank and



one of the world's foremost authorities on international railway: "[T]he U.S. railway system is the only major system to increase its share of the transport market since 1980. ... U.S. employees are at least 10 times more productive than are those of Sweden, France, Italy, Germany, Russia, India or China. ... U.S. railroads lead the way in freight car productivity. ... Because of a market-based approach involving minimal government intervention, today's U.S. freight railroads add up to a network that, comparing the total cost to shippers and taxpayers, gives the world's most cost-effective rail freight service."<sup>12</sup> The phenomenal improvement in railroad productivity is underscored by the U.S. Bureau of Labor Statistics' recent determination that U.S. railroad productivity growth in recent years has been among the very highest among the hundreds of industry groups studied.<sup>13</sup>

Most analysts agree, however, that the immense productivity gains that railroads have made since Staggers represent the most readily attainable gains — i.e., the 'low hanging fruit' has already been exploited. (That is not to say that railroads will not continue to make incremental productivity gains, but gains are likely to be evolutionary, not revolutionary, especially since past gains have been so high.) Consequently, significant future productivity will require continued, significant, and likely greater capital expenditures for a given level of efficiency gain. Given the unlikelihood that traditional sources of productivity gains will be enough, the heightened level of capital expenditures seen in the 1990s could become a pattern. This is especially so since railroads have begun experiencing some capacity shortages in the face of rising traffic volumes. Major capital expenditures will be needed in the future to alleviate these capacity crunches and help assure continued improvements in railroad service.

#### **IV. The Industry's Infrastructure Investments Have Resulted in Lower Rates**

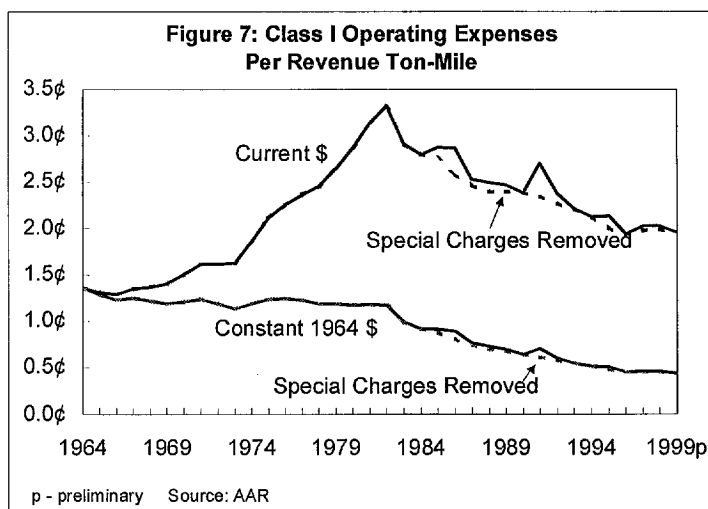
Higher productivity permits either the same output to be provided at lower costs or greater levels of output to be provided at the same (or lower) cost. In either event, the increased productivity

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<sup>12</sup> Louis Thompson, "U.S. Rails: A World Apart," *Journal of Commerce*, July 29, 1998.

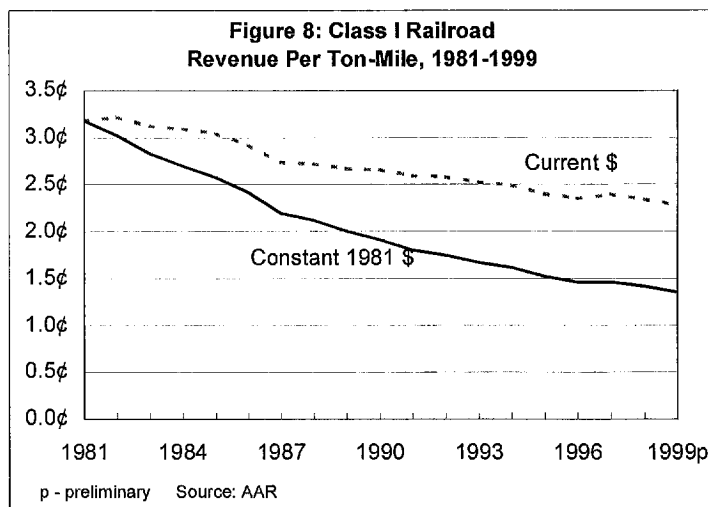
<sup>13</sup> See John Duke and Lisa Usher, "BLS Completes Major Expansion of Industry Productivity Series," *Monthly Labor Review* (September 1998, pp. 35-51).

resulting from the industry's infrastructure investments means that costs per unit of output will decline. And this is exactly what has transpired over the past 19 years in the U.S. rail industry. Even in current dollar terms, total Class I operating expenses were three percent less in 1999 than they were in 1981 — a time frame over which railroad input costs rose 71 percent<sup>14</sup> and railroad traffic increased by 57 percent. More telling is the steep downward trend in operating expense per ton-mile over this period. Figure 7 displays the fall in this indicator in both current and constant dollars terms.



The cost reductions created by the productivity gains enabled railroads to reduce freight rates in order to confront the strong competition and to halt the decades-old slide in railroad market share. In fact, in recent years, railroads have actually recaptured from competing modes some of their lost stature in the intercity freight market by increasing their share of that market to 40.3 percent (of revenue ton-miles) in 1998, after having sunk to a historical low of 35.2 percent in 1978. This is in spite of the fact that competition from other modes has been intense, stemming, in large part, from the productivity gains they have also produced.

Figure 8 illustrates the downward pattern of railroad freight charges (as measured by revenue per ton-mile) from 1981 forward. Overall, this rate surrogate has plunged 28 percent in current dollars (from 3.178 cents to 2.280 cents) and 57 percent after adjustment for inflation (3.178 cents to 1.360 cents).

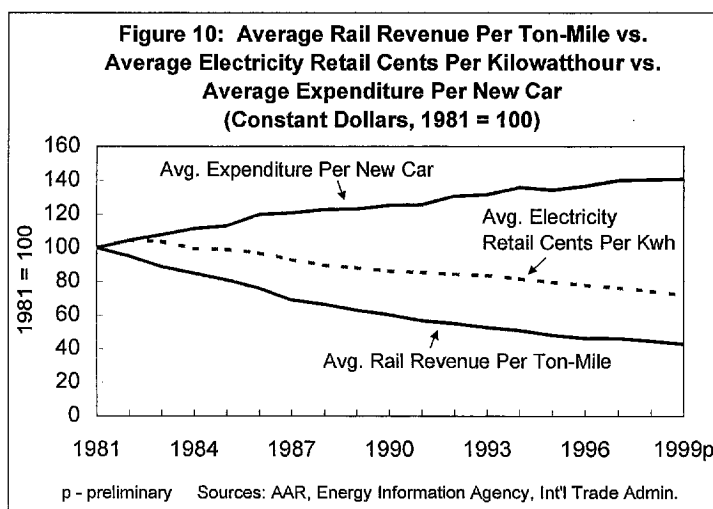
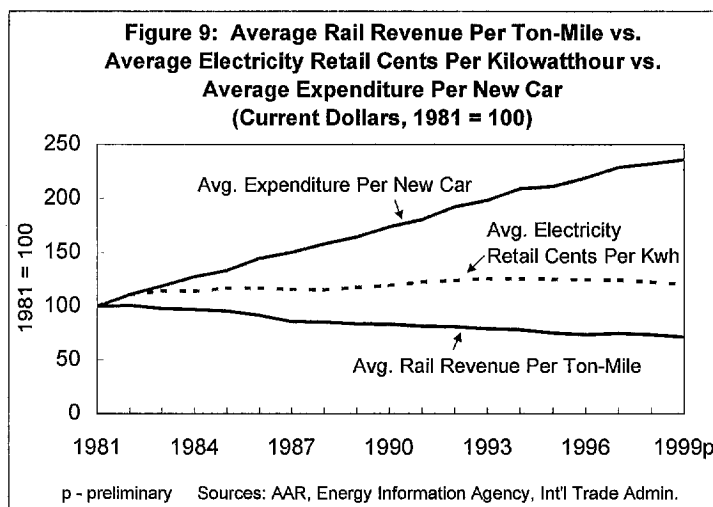


<sup>14</sup> As measured by the AAR's *Railroad Cost Recovery Index*.

Furthermore, as detailed in Table 2, this trend in falling revenue per ton-mile was not isolated to only a few commodities. Each of the major two-digit Standard Transportation Commodity Code groupings enjoyed declines expressed in both constant and current dollars, although the impact varied among individual commodity categories. This broad, sharp decline in rail rates argues strongly against the claim made by some that railroads have excessive market power.

To place the post-Staggers rate declines in perspective, Figure 9 compares railroad revenue per ton-mile (in current dollars) with the average retail electricity rates per kilowatt hour and the average expenditure per new automobile. The 28 percent decline in the railroad measure from 1981 to 1999 is in vivid contrast to the 21 percent increase in electricity rates and the 136 percent increase in new car prices. When stated on a constant dollar scale (Figure 10), railroad prices declined 57 percent, while electricity rates dropped 28 percent and auto prices rose 41 percent.

While the revenue per ton-mile surrogate is clearly not the only barometer of rail transportation prices, other measures of rail freight rates are generally not readily available because of the widespread use of confidential rate and service agreements between railroads and shippers.<sup>15</sup>



<sup>15</sup> AAR data show that approximately 70 percent of all rail traffic is transported under railroad/shipper contracts.

**Table 2: Railroad Revenue Per Ton-Mile by Commodity: 1981-1998**

STCC & Commodity	Current Dollars																	% chng		
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	81-98	
01 - Farm Products	2.84¢	2.56¢	2.48¢	2.32¢	2.26¢	2.11¢	1.97¢	2.04¢	1.97¢	2.10¢	2.10¢	2.13¢	2.25¢	2.42¢	2.22¢	2.28¢	2.33¢	2.33¢	2.33¢	-18%
10 - Metallic Ores	3.84¢	3.80¢	3.62¢	3.33¢	3.42¢	3.42¢	3.43¢	3.17¢	2.90¢	3.16¢	3.03¢	2.87¢	2.80¢	2.82¢	2.43¢	2.38¢	2.91¢	3.27¢	3.27¢	-24%
11 - Coal	2.51¢	2.51¢	2.43¢	2.50¢	2.34¢	2.24¢	2.19¢	2.16¢	2.10¢	2.08¢	2.08¢	2.04¢	1.94¢	1.83¢	1.83¢	1.81¢	1.84¢	1.72¢	1.72¢	-27%
14 - Nonmetallic Minerals	3.43¢	3.19¢	3.16¢	3.10¢	3.12¢	3.10¢	3.07¢	3.05¢	3.27¢	3.15¢	3.35¢	3.35¢	3.30¢	3.41¢	3.40¢	3.34¢	3.48¢	3.52¢	3.52¢	1%
20 - Food & Kindred Products	4.37¢	3.90¢	3.65¢	3.60¢	3.39¢	3.22¢	3.03¢	3.05¢	2.92¢	2.86¢	2.92¢	2.86¢	2.91¢	2.92¢	2.97¢	2.96¢	2.93¢	2.93¢	2.93¢	-33%
24 - Lumber & Wood Products	4.12¢	3.69¢	3.54¢	3.52¢	3.21¢	3.02¢	2.93¢	3.02¢	2.88¢	2.90¢	2.90¢	2.81¢	2.91¢	2.97¢	3.01¢	3.03¢	3.05¢	3.10¢	3.10¢	-26%
26 - Pulp, Paper & Allied Prod.	4.57¢	4.10¢	4.09¢	4.11¢	4.02¢	4.00¢	3.95¢	4.05¢	3.97¢	3.92¢	3.94¢	3.82¢	3.72¢	3.68¢	3.76¢	3.82¢	3.75¢	3.84¢	3.84¢	-18%
28 - Chemicals & Allied Products	4.20¢	3.87¢	3.78¢	3.89¢	3.92¢	3.87¢	3.73¢	3.81¢	3.60¢	3.65¢	3.84¢	3.76¢	3.72¢	3.66¢	3.71¢	3.68¢	3.72¢	3.68¢	3.68¢	-11%
29 - Petroleum & Coal Products	4.89¢	4.51¢	4.82¢	4.54¢	4.51¢	4.30¢	4.22¢	4.19¢	3.76¢	3.69¢	3.81¢	3.69¢	3.68¢	3.65¢	3.47¢	3.50¢	3.48¢	3.45¢	3.45¢	-29%
32 - Stone, Clay & Glass Prod.	4.29¢	3.78¢	3.66¢	3.80¢	3.72¢	3.62¢	3.44¢	3.43¢	3.33¢	3.32¢	3.45¢	3.49¢	3.62¢	3.52¢	3.59¢	3.59¢	3.58¢	3.64¢	3.64¢	-17%
33 - Primary Metal Products	4.64¢	4.15¢	4.04¢	3.97¢	3.75¢	3.47¢	3.22¢	3.17¢	3.03¢	3.18¢	3.21¢	3.12¢	3.15¢	3.15¢	3.14¢	3.13¢	3.17¢	3.24¢	3.24¢	-32%
37 - Transportation Equipment	11.51¢	10.35¢	9.76¢	11.12¢	11.16¢	11.03¢	10.99¢	11.18¢	11.00¢	11.06¢	10.28¢	9.73¢	10.40¢	10.80¢	10.54¢	10.98¢	10.83¢	10.55¢	10.55¢	-6%
40 - Waste & Scrap Material	5.79¢	5.07¢	4.96¢	5.11¢	4.92¢	4.74¢	4.41¢	4.65¢	4.44¢	4.23¢	4.02¢	3.80¢	3.64¢	3.64¢	3.72¢	3.74¢	3.80¢	3.74¢	3.74¢	-34%

STCC & Commodity	Constant 1981 Dollars																	% chng		
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	81-98	
01 - Farm Products	2.84¢	2.41¢	2.24¢	2.03¢	1.91¢	1.75¢	1.58¢	1.59¢	1.47¢	1.51¢	1.46¢	1.45¢	1.49¢	1.57¢	1.41¢	1.42¢	1.43¢	1.41¢	1.41¢	-50%
10 - Metallic Ores	3.84¢	3.58¢	3.28¢	2.91¢	2.89¢	2.83¢	2.76¢	2.46¢	2.17¢	2.28¢	2.11¢	1.95¢	1.85¢	1.83¢	1.55¢	1.48¢	1.78¢	1.98¢	1.98¢	-54%
11 - Coal	2.51¢	2.36¢	2.20¢	2.18¢	1.98¢	1.85¢	1.76¢	1.68¢	1.57¢	1.50¢	1.44¢	1.38¢	1.28¢	1.19¢	1.16¢	1.13¢	1.13¢	1.04¢	1.04¢	-55%
14 - Nonmetallic Minerals	3.43¢	3.00¢	2.86¢	2.71¢	2.64¢	2.57¢	2.47¢	2.37¢	2.45¢	2.27¢	2.33¢	2.28¢	2.19¢	2.22¢	2.16¢	2.09¢	2.13¢	2.13¢	2.13¢	-38%
20 - Food & Kindred Products	4.37¢	3.67¢	3.30¢	3.14¢	2.87¢	2.67¢	2.44¢	2.37¢	2.19¢	2.06¢	2.03¢	1.94¢	1.93¢	1.90¢	1.89¢	1.85¢	1.79¢	1.77¢	1.77¢	-59%
24 - Lumber & Wood Products	4.12¢	3.47¢	3.21¢	3.07¢	2.72¢	2.50¢	2.36¢	2.35¢	2.16¢	2.09¢	2.02¢	1.91¢	1.93¢	1.93¢	1.91¢	1.89¢	1.87¢	1.88¢	1.88¢	-55%
26 - Pulp, Paper & Allied Prod.	4.57¢	3.86¢	3.70¢	3.59¢	3.40¢	3.31¢	3.18¢	3.15¢	2.97¢	2.82¢	2.74¢	2.59¢	2.46¢	2.39¢	2.39¢	2.38¢	2.30¢	2.32¢	2.32¢	-50%
28 - Chemicals & Allied Products	4.20¢	3.65¢	3.42¢	3.40¢	3.32¢	3.20¢	3.00¢	2.96¢	2.70¢	2.63¢	2.67¢	2.55¢	2.46¢	2.38¢	2.36¢	2.29¢	2.28¢	2.23¢	2.23¢	-46%
29 - Petroleum & Coal Products	4.89¢	4.25¢	4.36¢	3.96¢	3.82¢	3.56¢	3.39¢	3.29¢	2.82¢	2.66¢	2.65¢	2.51¢	2.44¢	2.37¢	2.21¢	2.18¢	2.13¢	2.09¢	2.09¢	-56%
32 - Stone, Clay & Glass Prod.	4.29¢	3.55¢	3.32¢	3.32¢	3.15¢	3.00¢	2.77¢	2.67¢	2.49¢	2.39¢	2.40¢	2.37¢	2.40¢	2.29¢	2.28¢	2.24¢	2.19¢	2.20¢	2.20¢	-49%
33 - Primary Metal Products	4.64¢	3.91¢	3.66¢	3.47¢	3.17¢	2.87¢	2.59¢	2.46¢	2.27¢	2.29¢	2.23¢	2.12¢	2.09¢	2.04¢	2.00¢	1.95¢	1.94¢	1.96¢	1.96¢	-58%
37 - Transportation Equipment	11.51¢	9.74¢	8.84¢	9.71¢	9.44¢	9.13¢	8.84¢	8.69¢	8.24¢	7.97¢	7.15¢	6.61¢	6.90¢	7.02¢	6.70¢	6.85¢	6.63¢	6.38¢	6.38¢	-42%
40 - Waste & Scrap Material	5.79¢	4.77¢	4.49¢	4.46¢	4.16¢	3.93¢	3.55¢	3.62¢	3.33¢	3.05¢	2.80¢	2.58¢	2.42¢	2.36¢	2.36¢	2.33¢	2.33¢	2.26¢	2.26¢	-60%

Note: For 1981-1983, data include U.S. originations only; for 1984 to the present, data include U.S., Canadian and Mexican originations. The deflator used to compute "constant" dollars is the Bureau of Economic Analysis (U.S. Department of Commerce) Chain-Type Price Index for the Gross Domestic Product.

Source: AAR analysis of the Surface Transportation Board's Carload Waybill Sample.

Numerous independent studies which examine the behavior of railroad freight rates have concluded that rail rates have fallen. Among these studies is the STB's own *Rail Rates Continue Multi-Year Decline*, released by the Board's Office of Economics during February 1998, which found that the average real rail rate had fallen 46.4 percent between 1982 and 1996.<sup>16</sup>

The World Bank's Lou Thompson explained in 1998 that, "Unsubsidized U.S. freight rail rates are not only the lowest of any market economy, they have been falling every year since 1980, even though U.S. labor costs are high."<sup>17</sup> Several other recent investigations have addressed the behavior of railroad freight rates. Among others, these studies include the following:

- The U.S. General Accounting Office, in an April 1999 report, concluded that "railroad rail rates have generally fallen both overall as well as for specific commodities" since 1990. GAO noted that its results are consistent with Surface Transportation Board (STB) calculations that found that average rail rates fell 4.1 percent annually in real terms from 1990 to 1996, and that rate reductions vary by commodity.<sup>18</sup>
- A 1999 report by two scholars from The Brookings Institution found that transportation deregulation generally led to greater innovation, lower prices, improved efficiency and improved service. They note that in contrast to trucking rates, rail rates did not fall sharply after deregulation and then stabilize; rather, "real rail rates have declined

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<sup>16</sup> The differences between the STB's 46 percent decline and the AAR's 57 percent decline are attributable to different time periods (AAR starts in 1981 and ends in 1999, STB starts in 1982 and ends in 1996), different database sources (AAR relies upon freight revenues and ton-miles from the railroads' R-1 Annual Reports to the STB, while STB uses revenues and tonnage from the individual carriers' Freight Commodity Statistics reports and length-of-haul statistics from the STB's Carload Waybill Sample), and different indexing methodologies (AAR applies a basic indexing procedure, while STB has adopted a Tornqvist index technique).

<sup>17</sup> Louis Thompson, "U.S. Rails: A World Apart," *Journal of Commerce*, July 29, 1998.

<sup>18</sup> U.S. General Accounting Office, *Railroad Regulation: Changes in Railroad Rates and Service Quality Since 1990* (April 1999).

continuously ... and are likely to fall further...[T]he annual net benefit to shippers from rail deregulation amount to more than \$11.7 billion (1996 dollars).”<sup>19</sup>

- In a series of staff papers, economists at North Dakota State University studied the behavior of grain rates in recent years. They noted that “while rate increases have been a major concern for shippers, most of these concerns have been unfounded. In fact, several studies have indicated that as a result of deregulation, cost savings have accrued and rail rates have fallen in real terms.” The researchers also found that “[I]n the period prior to the [Staggers Rail Act], most rail rates were generally increasing in real terms. However, in the period following [Staggers], most rail rates decreased in real terms by 52 percent (ranging from 40-71 percent across commodities).”<sup>20</sup>
- A 1997 collaborative study involving researchers from The Brookings Institution and the George Mason University Center for Market Processes concerning the effects of economic deregulation in various industries found that rail prices fell by 44 percent from 1980-1990, resulting in annual consumer benefits from rail deregulation of \$9.1 billion in constant 1995 dollars.<sup>21</sup>

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<sup>19</sup> Steven Morrison and Clifford Winston, “Regulatory Reform of U.S. Intercity Transportation,” in *Essays in Transportation Economics and Policy: A Handbook in Honor of John R. Meyer* (Brookings Institution, 1999, pp. 469-492.)

<sup>20</sup> William M. Wilson, *U.S. Grain Handling and Transportation System: Factors Contributing to the Dynamic Changes in the 1980s and 1990s*. (Staff Paper Series, Department of Agricultural Economics, North Dakota State University, November 1998) and Wesley W. Wilson and William W. Wilson. *Deregulation and Innovation in Railroad Shipping of Agricultural Commodities: 1972-1995*. (Staff Paper Series, Department of Agricultural Economics, North Dakota State University, December 1998.)

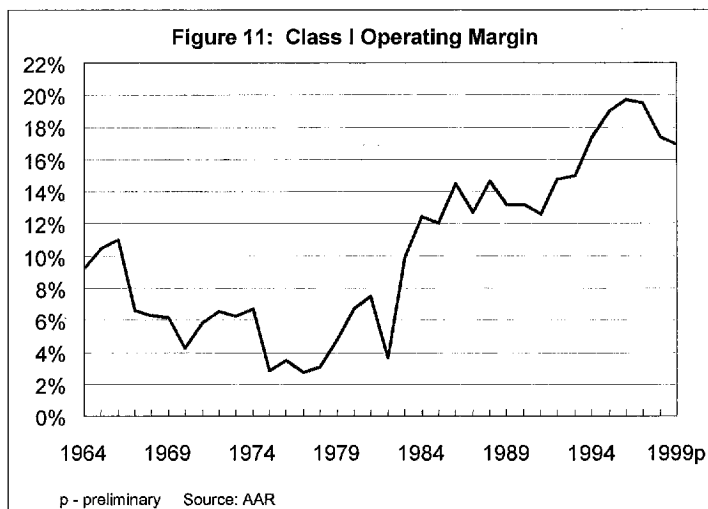
<sup>21</sup> Robert Crandall and Jerry Ellig, *Economic Deregulation and Consumer Choice: Lessons for the Electric Industry*, George Mason University Center for Market Processes (1997).

## V. Railroads' Operating Margins Have Also Improved, Making Additional Investments Possible

Financial performance of the Class I railroads has also improved substantially, permitting further investment. From 1981 to 1999, while Class I revenue ton-miles climbed 57 percent, operating revenues were up only eight percent in nominal dollars and operating expenses were down three percent. The relatively meager rise in revenue is testimony to the continuing reductions in the average revenue generated by each ton-mile of cargo transported. The ability to reduce overall costs in the face of output levels which are 157 percent of what they were in 1981 is the product of astounding productivity.

One of the best indicators of the impact of the efficiencies created, in large part, by the investments of the industry in itself is the

operating margin. This measure is the result of the following equation:  $[(\text{operating revenue} - \text{operating expense}) / \text{operating revenue}]$ . As such, it provides a relatively "clean" indication of the profitability dynamics of the basic railroad business, prior to the consideration of non-operating costs. Figure 11 charts the Class I operating margins from 1964 through 1999, highlighting its pronounced upward trend over the past two decades.<sup>22</sup>



## VI. While These Investments Are Funded With Railroads' Available Cash, Railroads Still Need to Access Capital Markets

While profitability has risen under deregulation, the huge investment demands of railroading has commanded the majority of the remaining funds. And even then, it has been necessary for the railroads to routinely access the capital markets for supplementary funding.

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<sup>22</sup> The expenses used to construct the chart exclude special charges. If special charges were included, the margin would be reduced for most years starting in 1985, with some years (such as 1991, in which \$3.7 billion in special charges were taken) being affected substantially. However, even with these one-time special charges, the trend in the margin would still be up.

Table 3 is a summary of the Class I railroads' cash flow and investment history from 1981 forward. For each year, the table shows the current dollar inflow of cash, the cash available for reinvestment after normal disbursements have been made, the level of capital expenditures, and the extent to which railroads obtained outside financing.

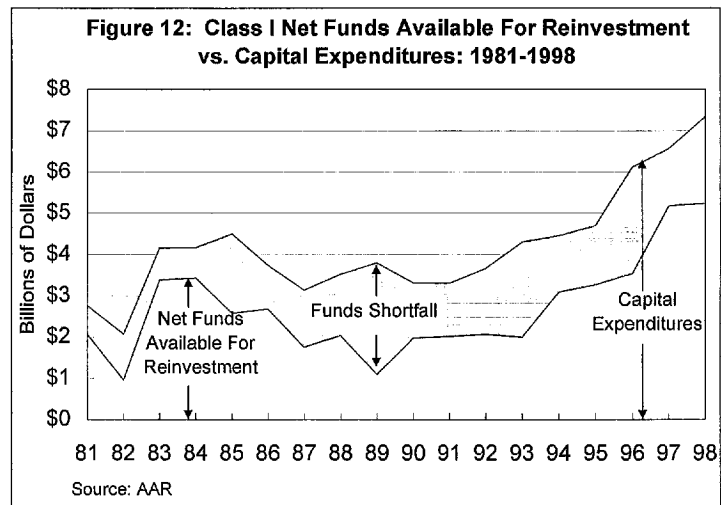
<b>Table 3: Summary of Class I Railroads' Cash Flows</b> (\$ Millions)									
	<b>1981</b>	<b>1982</b>	<b>1983</b>	<b>1984</b>	<b>1985</b>	<b>1986</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>
Total Sources (a)	\$5,406	\$4,433	\$7,314	\$7,580	\$6,178	\$6,124	\$5,585	\$5,586	\$5,988
Total Uses (b)	(3,334)	(3,470)	(3,926)	(4,147)	(3,599)	(3,444)	(3,833)	(3,551)	(4,894)
Net Funds Available									
for Reinvestment	2,072	963	3,388	3,433	2,579	2,680	1,752	2,035	1,094
Capital Expenditures (c)	(2,765)	(2,074)	(4,164)	(4,174)	(4,500)	(3,739)	(3,146)	(3,528)	(3,801)
Funds Shortfall	(693)	(1,111)	(776)	(741)	(1,921)	(1,059)	(1,394)	(1,493)	(2,707)
Outside Financing	1,474	855	955	1,214	1,065	829	811	1,236	2,420
Net Increase									
(Decrease) in Funds	\$781	(\$256)	\$179	\$473	(\$856)	(\$230)	(\$583)	(\$257)	(\$287)
	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>
Total Sources (a)	\$5,281	\$4,646	\$5,776	\$5,024	\$6,476	\$7,570	\$8,029	7,915	6,727
Total Uses (b)	(3,310)	(2,636)	(3,715)	(3,028)	(3,386)	(4,293)	(4,487)	(2,743)	(1,497)
Net Funds Available									
for Reinvestment	1,971	2,010	2,061	1,996	3,090	3,277	3,542	5,172	5,230
Capital Expenditures (c)	(3,317)	(3,311)	(3,664)	(4,302)	(4,456)	(4,701)	(6,114)	(6,563)	(7,334)
Funds Shortfall	(1,346)	(1,301)	(1,603)	(2,306)	(1,366)	(1,424)	(2,572)	(1,391)	(2,104)
Outside Financing	1,411	1,055	1,627	2,284	1,767	1,457	2,405	1,619	1,665
Net Increase									
(Decrease) in Funds	\$65	(\$246)	\$24	(\$22)	\$401	\$33	(\$167)	228	(439)
(a) Includes Net Income from Continuing Operations; Proceeds from Disposal of Property; Depreciation and Amortization; Deferred Taxes; Net Increase in Undistributed Income of Subsidiaries; Discontinued Operations, Extraordinary Items and Adjustments for Changes in Accounting Principles and Other; Proceeds from Investment Advances; and Other.									
(b) Includes Debt Retirement, Purchase of Long Term Advances, Cash Dividends, Purchase of Treasury Stock, and Other.									
(c) Capital expenditure amounts used here are related solely to cash outlays and, therefore, may differ from those used elsewhere in this statement.									

With limited exceptions, the typical annual pattern of railroads' investment in railroad assets and the associated cash inflows and outflows from 1981 - 1998 is approximately as follows (Table 3 values have been generalized into approximate ranges):



	(\$ Billions)
Cash Sources	\$5.0 - \$8.0
Cash Uses	<u>\$3.0 - \$4.5</u>
Remaining Cash	\$2.0 - \$3.5
Capital Expenditures	<u>\$3.0 - \$6.0</u>
Cash Shortfall	(\$1.0 - \$2.5)
Outside Financing	\$1.0 - \$2.5

Figure 12 shows 1981 - 1998 Class I capital expenditures and the levels of those expenditures financed through internally-generated funds versus funds secured from the capital markets. The bottom line is that the cash generated by the industry has been insufficient to sustain the capital investment levels required. Rail carriers have found it necessary every year since 1980 to obtain funds from outside sources (89 percent of which has been debt and the remainder equity). Over the past 17 years, of the cumulative \$77 billion in capital expenditures, roughly 64 percent was provided from internally-generated funds and 36 percent from external capital providers, principally through issuance of new debt.



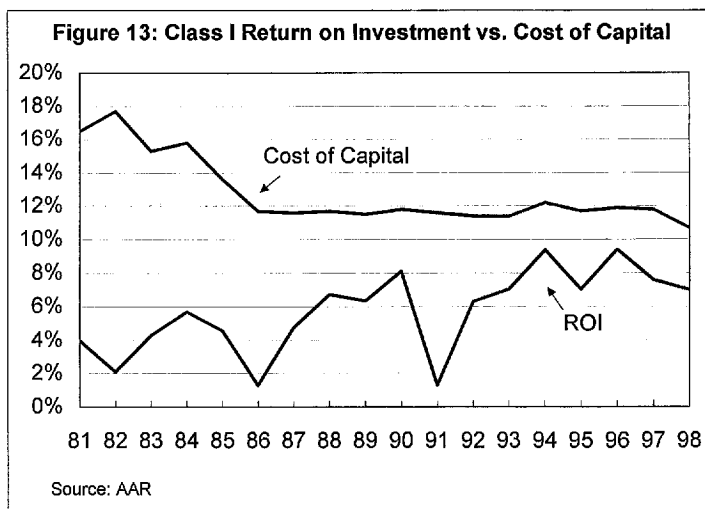
## **VII. Notwithstanding Revenue Gains, Railroads Are Still Not Earning Competitive Returns, Affecting Their Ability to Attract Capital**

Even with their improved financial posture, freight railroads have not attained adequate revenue levels and the rail industry remains in an inferior position relative to other U.S. businesses with which railroads must compete for capital.

Since 1978, the ICC and now the STB have regularly determined the revenue adequacy of individual Class I railroads. The STB's criteria hold that a carrier generates adequate revenue when its rate of return on net investment (ROI) equals or exceeds the rail industry's current cost

of capital (COC).<sup>23</sup> An ROI which is equal to or greater than the COC indicates that the carrier's investments are earning returns sufficient to cover their costs and to attract and maintain needed capital.

During the 21 years in which revenue adequacy determinations have been rendered, the railroads have effectively narrowed the COC vs. ROI gap — revealing substantial progress toward financial health and stability (see Figure 13). On an industry basis, the revenue adequacy shortfall (gap between ROI and COC) was typically two to three times (or more) the ROI during the late 1970s and early 1980s, but has typically been less than one since the mid-1980s. Most recently, it has fallen to only 0.27 (1996), 0.55 (1997), and 0.53 (1998).



### Return on Equity

Comparative return on equity (ROE) data reveal that railroads generate lower returns than the average of all other Fortune 500 companies and than individual industries which rely heavily upon rail transportation. Specifically, Table 4 contains the 1985-1999 median returns on equity for the Class I railroads, the Fortune 500 companies, and the following industry groups: building materials and glass, chemicals, industrial and farm equipment, motor vehicles and parts, forest and paper products, and mining. In the 105 comparisons provided by the table (15 years x 7 industry categories), railroad returns exceeded those of other industry groupings in only 21 instances — with the best rail record against any single industry being higher returns in five of the 15 years. The extent to which railroads fall short of earnings enjoyed by other industries is underscored by the fact that in 63 percent of the cases (66 of 105) the ROE of the other industry was at least 50 percent greater than the railroads'. Moreover, in 36 cases (34 percent of the comparisons) the ROE of the other industry was more than twice that of the Class I railroads.

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<sup>23</sup> The cost-of-capital return is a broadly-embraced concept which is employed routinely by state and federal regulators and was endorsed by the Railroad Accounting Principles Board (see RAPB Final Report, *Railroad Accounting Principles*, Vol. 2, September 1, 1987, pp. 57-62).

**Table 4: Median Return on Equity**  
**Class I Railroads vs. Fortune 500 Companies**  
**(1985-1999)**

Year	Class I RRs	Fortune 500 Cos.	Building Materials & Glass	Chem- icals	Industrial & Farm Equip.	Motor Vehicles & Parts	Forest & Paper Products	Mining*
1985	5.3 %	11.6 %	10.0 %	8.3 %	5.8 %	13.7 %	8.3 %	11.0 %
1986	0.0	11.6	11.5	11.8	3.7	10.1	11.8	7.7
1987	7.0	13.2	13.4	14.2	11.2	11.6	14.7	7.0
1988	8.6	16.2	-3.3	16.8	12.7	14.5	19.8	2.4
1989	4.3	15.0	13.6	15.9	12.1	9.8	16.9	12.7
1990	8.3	13.0	10.8	13.8	10.9	7.2	10.1	15.1
1991	1.0	10.2	-0.7	12.6	6.0	0.7	4.8	7.7
1992	7.6	9.0	-26.0	10.5	0.4	-11.1	5.7	7.0
1993	8.0	11.9	1.7	4.9	10.6	11.3	5.6	6.3
1994	11.3	13.7	20.8	18.5	17.0	18.5	9.6	8.0
1995	5.9	14.0	12.9	19.8	18.3	20.2	17.6	15.0
1996	11.6	14.1	22.2	20.5	17.0	16.1	6.8	19.0
1997	10.4	13.9	35.3	19.8	17.4	17.1	2.2	16.0
1998	11.5	13.4	26.2	17.9	18.7	18.2	3.2	-0.0
1999	8.8 p	15.2	16.8	17.9	17.0	17.9	8.6	8.0

Source: Class I Railroad ROE's medians calculated from the AAR's Analysis of Class I Railroads. ROE's for all other categories taken from The Industry Medians, as published in the April issues of Fortune magazine for the years 1986-1999.

\* Because the number of mining companies in the Fortune 500 fell below 4 subsequent to 1992, ROE medians for the mining industry were extracted from Fortune 1000 medians for years 1993-1999. p - preliminary

Further evidence of the poor comparative position of railroads is revealed in Table 5, which shows railroads' ranking in terms of ROE vis-à-vis other industries from 1985 through 1999. The railroad industry's ROE is compared to the ROEs of the other Fortune 500 industries. In all but two years (1992 and 1993), the railroad ROE is among the lowest quartile of the industries. And in seven of the 15 years, at least 92 percent of other industries generated returns that exceeded those of the railroads.

A comparison of rail industry ROE to figures produced by Standard & Poor's (Table 6) provides a similar picture of the rail industry position. This presentation includes ROE mean values for Class I railroad, all S&P Industrials, and nine industry groupings: automobiles, chemicals, manufacturing, metals, paper & forest products, steel, transportation, utilities, and electric companies. Since the table covers 1985 through 1997, there are 130 points of comparison (13 years x 10 industry groupings). Here again (except for a number of deficit years experienced by the steel industry) Class I railroads typically register returns substantially inferior to those of

other industries. Indeed, their ROE is lower in 74 percent of the comparisons — and strikingly lower in the vast majority of cases.

**Table 5: Return on Equity Ranking  
of Class I Railroads vs. Other Industries**

Year	Number of Industries*	Class I Rank
1985	26	25th
1986	25	25th
1987	25	24th
1988	25	23rd
1989	25	25th
1990	25	23rd
1991	25	23rd
1992	25	14th
1993	35	26th
1994	35	27th
1995	36	35th
1996	38	30th
1997	37	30th
1998	38	28th
1999	41	34th

\* As reported in *Fortune's* annual Fortune 500 analysis plus one (1) for the Class I railroads where appropriate.

Source: Fortune 500 medians as published annually in *Fortune* magazine, 1986-2000.

**Table 6: Average Return on Equity  
Class I Railroads vs. Standard & Poor's 500 Industrials  
(1985-1997)**

Year	Class I RRs	S&P 500 Indust.	Autos	Chem- icals	Mfg. (Divers. Indust.)	Metals (Misc.)	Paper & Forest Prod.	Steel	Transp.	Utilities	Electric Cos.*
1985	6.8 %	12.1 %	20.4 %	3.9 %	14.9 %	def %	8.2 %	def %	8.6 %	12.2 %	14.0 %
1986	2.1	11.6	16.7	13.5	28.6	0.5	11.0	def	1.0	12.5	13.6
1987	8.1	15.1	19.3	18.5	36.1	10.9	14.8	11.2	8.4	12.6	12.1
1988	9.1	19.1	19.9	21.0	16.5	40.9	16.8	18.9	13.4	11.8	10.3
1989	8.4	18.5	13.1	24.5	16.5	25.9	16.0	13.7	10.1	12.1	11.3
1990	8.2	16.2	def	17.3	15.5	17.0	9.3	def	4.5	11.1	9.7
1991	def	10.8	def	8.9	7.2	5.6	3.7	def	def	10.1	10.2
1992	7.9	13.4	def	7.5	10.1	def	3.8	def	1.2	12.4	11.2
1993	9.4	16.0	34.5	11.0	11.0	0.5	4.1	def	6.5	10.1	10.2
1994	12.7	21.8	37.6	22.9	29.2	6.8	7.1	25.9	10.3	13.4	10.7
1995	7.9	21.6	22.8	32.6	32.5	13.4	20.2	27.3	10.7	15.3	11.3
1996	12.2	24.5	21.6	28.7	20.3	9.9	5.8	10.2	13.3	11.4	10.9
1997	9.3	24.2	26.6	24.7	27.4	8.2	n/a	25.5	15.6	n/a	8.9

\* Electric Companies are included in Utilities (which also includes Natural Gas and Telephone Companies).

def = deficit      n/a = not available

Source: Standard & Poor's *Analyst's Handbook*, 1998 Annual Edition, AAR *Analysis of Class I Railroads* (various years).

## Return on Investment

Table 7 contains the 1985-1999 median return on investment (ROI) figures for Class I railroads and the same seven groupings of Fortune 500 companies utilized in the return on equity analysis above.<sup>24</sup> Railroads have lower ROIs in 70 percent of the comparisons (74 out of 105), with fully 42 percent of the 31 instances in which the railroad ROI was greater than the other industry ROIs taking place in just two years, 1992 and 1993.

**Table 7: Median Return on Investment  
Class I Railroads vs. Fortune 500 Companies  
(1985-1999)**

Year	Class I RRs	Fortune 500 Cos.	Building Materials & Glass	Chem- icals	Industrial & Farm Equip.	Motor Vehicles & Parts	Forest & Paper Products	Mining
1985	2.4 %	5.2 %	4.4 %	4.2 %	2.8 %	6.9 %	4.2 %	3.1 %
1986	-0.3	5.2	4.1	5.7	1.9	4.3	4.8	2.7
1987	3.5	6.0	7.4	6.8	5.4	5.1	6.7	2.8
1988	3.7	6.8	4.9	7.5	5.4	3.9	8.4	1.3
1989	2.2	5.9	4.5	6.7	3.9	2.5	7.3	4.2
1990	3.6	4.8	2.1	5.8	3.9	2.2	4.3	4.5
1991	0.4	3.6	-3.6	4.1	2.3	0.3	1.8	2.5
1992	2.4	3.0	-2.1	2.2	0.2	-1.9	1.7	2.0
1993	3.2	2.7	1.7	1.5	3.0	1.3	1.2	1.4
1994	4.5	3.7	4.6	6.9	5.2	5.2	2.6	2.0
1995	2.2	3.9	3.9	8.4	5.0	5.1	7.0	7.0
1996	5.2	3.9	2.0	6.8	5.3	4.3	2.9	6.0
1997	4.9	3.9	5.1	5.9	5.6	3.4	0.4	6.0
1998	3.2	3.4	4.4	6.0	3.9	4.8	0.9	0.0
1999	2.7 p	3.8	4.2	5.3	3.6	4.6	3.7	3.0

Source: Class I Railroad median ROI's calculated using information from the AAR's *Analysis of Class I Railroads*. ROI's for all other categories taken from the industry medians in the Fortune 500 issues of *Fortune* for the relevant years. p - preliminary

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<sup>24</sup> To be comparable to the Fortune 500 figures, Class I railroad ROIs were calculated using net income divided by total assets, rather than the methodology employed by the STB in revenue adequacy determinations. The STB's methodology recognizes only railroad-related income and railroad-related assets, excludes deferred tax liabilities from the investment base denominator, and excludes interest expense in the calculation of the income numerator.

## Other Measures

While price/earnings ratio<sup>25</sup> and dividend yield<sup>26</sup> are not valid indicators of long-term revenue adequacy and are, at best, short-term measures, Table 8 contrasts the price/earnings ratio and dividend yield associated with Class I railroad stock with that of the S&P 500 companies.<sup>27</sup> In each of the 15 years through 1999, the price/earnings ratio for railroads has been lower than the ratio for the S&P 500 companies. Moreover, in most years, the dividend yield afforded railroad industry investors has been substandard to the S&P 500 average.

**Table 8: Price/Earnings Ratios and Dividend Yields of Class I Railroads vs. S&P 500 Industries**

Year	<u>Class I Railroads *</u>		<u>S &amp; P 500 Companies**</u>	
	P/E Ratio	Div. Yield	P/E Ratio	Div. Yield
1985	9.1	3.5%	12.9	4.3 %
1986	13.4	3.4	15.8	3.7
1987	12.1	3.0	16.0	3.3
1988	11.0	4.5	11.1	3.7
1989	11.7	3.5	13.9	3.5
1990	12.0	3.6	15.3	3.8
1991	21.5	3.5	22.4	3.4
1992	16.2	2.3	21.9	3.0
1993	16.6	2.3	20.6	2.8
1994	14.1	2.4	15.1	2.9
1995	14.8	2.2	15.9	2.6
1996	14.7	2.0	17.2	2.3
1997	16.9	1.9	27.5	1.5
1998	21.0	1.8	32.8	1.3
1999	19.3	1.8	32.1	1.2

Sources: \* Value Line's *Railroad Industry Reports*, various. Class I railroad-specific data not available; figures above represent railroad holding company. \*\* Standard and Poor's *Stock Market Encyclopedia*, Spring 1998 and S&P/Barra U.S. Equity Indices, 1999.

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<sup>25</sup> Obtained by dividing the annual earnings into the market price over the year.

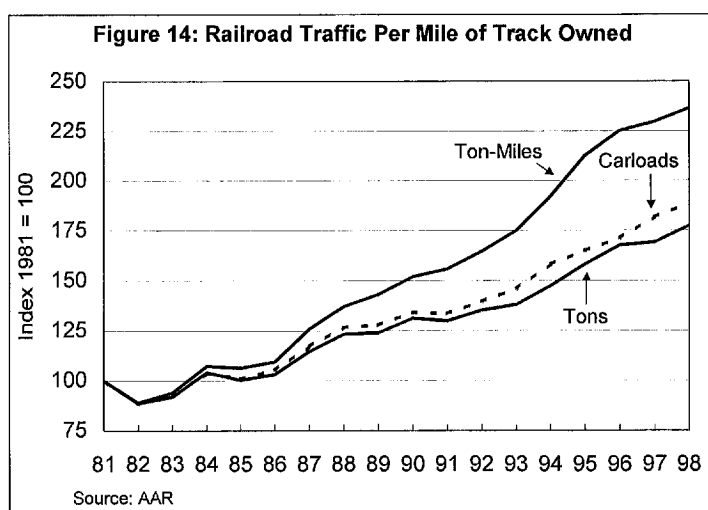
<sup>26</sup> Obtained by dividing a stock's annual dividend by its price.

<sup>27</sup> According to the June 1999 *S&P Stock Market Encyclopedia*, the 500 U.S. stocks which make up the "S&P 500" comprise approximately 70 percent of the total market value of all American stocks traded, and include stocks traded on the New York Stock Exchange, the Nasdaq National Market, and the American Stock Exchange.

*Progress* toward adequate revenues is obviously not *attainment* of adequate revenues — and additional regulatory restrictions will indisputably halt or reverse that progress. Artificial and unrealistic restrictions that impede a railroad's *opportunity* to generate sufficient returns are likely to severely compromise the carrier's ability to retain and attract the capital it needs to sustain its investment and operations over the long term.

## VIII. The Financial Health of Railroads Requires That They Be Permitted to Achieve Network Densities

Railroads have taken fundamental steps in essentially all facets of their business to increase their efficiency. The resulting productivity gains have permitted greater volumes of traffic to be transported more efficiently, more safely, and at lower cost. One of the most important sources of productivity during the post-Staggers deregulatory period has been the dramatic increase in traffic density. As noted above, since 1980, U.S. Class I railroads have rationalized their rail networks (mainly through the spin-off of unprofitable or marginal properties to regional and local operators) while growing volumes. As shown in Figure 14, the resulting increase in traffic densities is reflected in the 1981-1998 increases in the following measures per mile of track owned by Class I railroads: ton miles, up 137 percent; tons, up 77 percent; and carloads, up 88 percent.<sup>28</sup>



Mergers during the past two decades have been an element in achieving these density improvements. Railroad combinations have promoted the efficiencies available through higher traffic volumes. Indeed, the World Bank's Lou Thompson noted the U.S. railroads' dramatic productivity successes are a "result of growing traffic and continuing system consolidations."<sup>29</sup>

<sup>28</sup> Using miles of road instead of miles of track yields similar results.

<sup>29</sup> Louis Thompson, "U.S. Rails: A World Apart," *Journal of Commerce*, July 29, 1998.

Due to the existence of extensive fixed or common costs, as more traffic moves over a given railroad network, costs increase by less than the increase in traffic, so that the cost per traffic unit declines. This is what is known as the economies of density. Studies over the past 25 years have consistently shown that railroads continue to exhibit economies of density, even as traffic has grown and miles of track have declined.

If railroads must contend with maintaining an extensive system of lines which may carry significantly less than maximum traffic densities, the full economic advantages of rail transport cannot be realized. By directing greater volumes of traffic over a limited network of track, railroads can optimally size their respective systems and can more readily economically justify the very expensive but highest value investments such as the heaviest premium rail, the best signaling systems, and the optimal siding configurations — those infrastructure attributes which allow the lowest per unit costs and are critical to industry profitability and customer service.

The existence of railroad economies of density has implications for regulatory decisions. If the effect of a regulatory decision was to reduce traffic densities, costs would decrease by less than the reduction in traffic. This would cause the cost per unit to increase. The most recent study of railroad costs indicates that a ten percent reduction in traffic levels would increase variable cost per car-mile by about five percent. This in turn would decrease the railroads' ability to make the necessary infrastructure investments discussed at length in this statement

## **IX. Differential Pricing Is Also Critical to a Financially Efficient Rail System**

Demand-based or differential pricing is another major underpinning of the railroads' success in attracting traffic, covering costs, and making investments. Accepted by the academic community, embraced by regulators and legislators,<sup>30</sup> and upheld by the courts, differential pricing has been an indispensable tool in the railroad industry's progression toward profitability. The STB itself has recognized that railroads serve a mix of traffic with different levels of competitiveness: they cannot recover an equal or pro rata portion of the unattributable (joint and

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<sup>30</sup> The Staggers Rail Act of 1980 prescribed that it is federal rail transportation policy "to allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail." United States Code, Title 49, Sec. 10101a(1).



common) costs from all traffic. Under the Ramsey pricing principles which are the cornerstone of the Board's rate reasonableness tenets, "...carriers are expected to price traffic in inverse proportion to demand elasticity, up to the point at which a reasonable, adequate profit level is attained. In other words, a railroad should price its traffic differentially so as to recover a greater percentage of its unattributable cost from the traffic with a greater dependency on it service (i.e., less price sensitivity for that service)."<sup>31</sup>

This is a principle widely applicable to any other competitive industry. Like many other businesses, the railroads do not charge all customers the same prices. They derive different margins from different types of customers, based not only upon the cost of providing the service, but also the customer's demand for the service. Examples of differential pricing are ubiquitous. Airlines, for instance, typically charge business travelers more for last-minute reservations than they do a passenger taking the same trip who had the flexibility to make the reservation well in advance of the flight. A person attending an early afternoon weekend matinee can enjoy a movie for substantially less. Subway commuters pay higher fares during rush hour periods. Telephone and electricity rates vary dramatically depending upon the time of day. Motels may elect to charge senior citizens or young children a rate different from that of other customers. Many restaurants charge more for the same meal at dinner than at lunch. A person buying a Lexus is paying a larger margin to the manufacturer than if he/she bought a Corolla. And so on.

Companies do not necessarily charge an "average price" or the "average rate" to each customer. They typically charge more to those customers who either have fewer alternatives or who can afford to pay the higher prices, and less to those customers who have more options or lower demand, because if they didn't charge those customers who have options less than the average, those customers would go elsewhere.

The importance of differential pricing becomes even clearer if one considers the actual rail traffic base. Approximately 70 percent of total rail carloads are carried at rates yielding a revenue-to-

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<sup>31</sup> Ex Parte No. 347 (Sub-No. 2), *Rate Guidelines - Non-Coal Proceedings*, served December 31, 1996, at pages 3 and 4.

variable-cost (R/VC) ratio of less than 180 percent.<sup>32</sup> But because of the extensive competition railroads face, the average R/VC ratio of this traffic (*i.e.*, the traffic carried at rates yielding R/VC ratios under 180 percent) is only 109 percent.<sup>33</sup> This traffic is welcome, since it makes at least some contribution to fixed costs. But because the average ratio at which all rail traffic must move if total railroad costs (variable and fixed) are to be recovered is approximately 137 percent<sup>34</sup>, a significantly greater proportion of fixed cost coverage must come from traffic carried at rates that yield an R/VC greater than 180 percent. Given their demand structure, only by pricing in accordance with demand can railroads efficiently recover all of their costs, serve the largest number of rail customers, and maintain the viability of the nation's rail system. As shown on Figure 15, differential pricing by railroads benefits all shippers. If the railroad shipper who had other options stopped using rail service, the contribution that he was paying (however small) toward the fixed plant cost would be lost. Consequently, coverage of those fixed cost burdens would fall to the smaller group of remaining shippers.

This is why differential pricing is critical to the railroad industry's survival and its ability to maintain the capital intensive infrastructure. And when each rail customer is charged in relation to his demand for the service, capped at a reasonable level under the Board's Constrained Market Pricing standard, all shippers are better off. It is this economic reality that is a central theme of the residual economic oversight under deregulation. If differential pricing was curtailed, marketplace efficiencies would be sacrificed. Low-demand rail shippers would gravitate to other modes. As this cycle progressed, railroads would be increasingly unable to cover their large fixed costs, and disinvestment in the rail system would inevitably follow.

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<sup>32</sup> Based on the 1998 URCS-costed STB Carload Waybill Sample. An R/VC of 180 is the threshold below which traffic is presumed, for regulatory purposes, to be competitive and not subject to challenge.

<sup>33</sup> Based on the 1998 URCS-costed STB Carload Waybill Sample.

<sup>34</sup> Based on the 1998 STB-generated URCS regional work tables.

## Figure 15: Why Differential Pricing Benefits All Rail Shippers

1. Suppose a railroad has fixed costs of \$180 and serves three shippers: a package delivery company, a grain elevator, and a coal-fired power plant. The railroad's variable cost to serve each shipper is \$100.

The package company will pay no more than \$130 for rail service. At any higher rate, it will switch to truck. The grain elevator will pay no more than \$160 for rail service -- at any higher rate it will switch to barge. The power plant has no real alternative to rail, so it is willing to pay more - \$190 - for rail service. The railroad engages in differential pricing to cover its fixed costs. It charges the package company and the grain

elevator less than the power plant. The railroad covers fixed and variable costs, although each shipper makes a different contribution to fixed costs.

Shipper	Differential Rail Rate	Variable Costs	Contribution to Fixed Costs
Package company	\$130	\$100	\$30
Grain elevator	\$160	\$100	\$60
Power plant	\$190	\$100	\$90
Total	\$480	\$300	\$180

2. Now, suppose the power plant persuades the government to prohibit differential rates.\* The railroad now must charge each shipper the same markup over variable costs, or \$160. At the new rate, the power plant saves \$30; the grain elevator pays the same as before, and the package company pays \$30 more.

Shipper	New Rail Rate	Variable Costs	Contribution to Fixed Costs	Change From Diff. Rate
Package company	\$160	\$100	\$60	+\$30
Grain elevator	\$160	\$100	\$60	\$0
Power plant	\$160	\$100	\$60	-\$30
Total	\$480	\$300	\$180	\$0

3. But at a rate of \$160, the package company would drop rail service. When it did so, the railroad's \$180 in fixed costs would still need to be covered. So, the railroad must then charge the grain elevator and the power plant \$190 each in order to cover total costs.

Shipper	New Rail Rate	Variable Costs	Contribution to Fixed Costs	Change From Diff. Rate
Package company	\$160	\$100	\$60	+\$30
Grain elevator	\$190	\$100	\$90	+\$30
Power plant	\$190	\$100	\$90	\$0
Total	\$380	\$200	\$180	+\$30

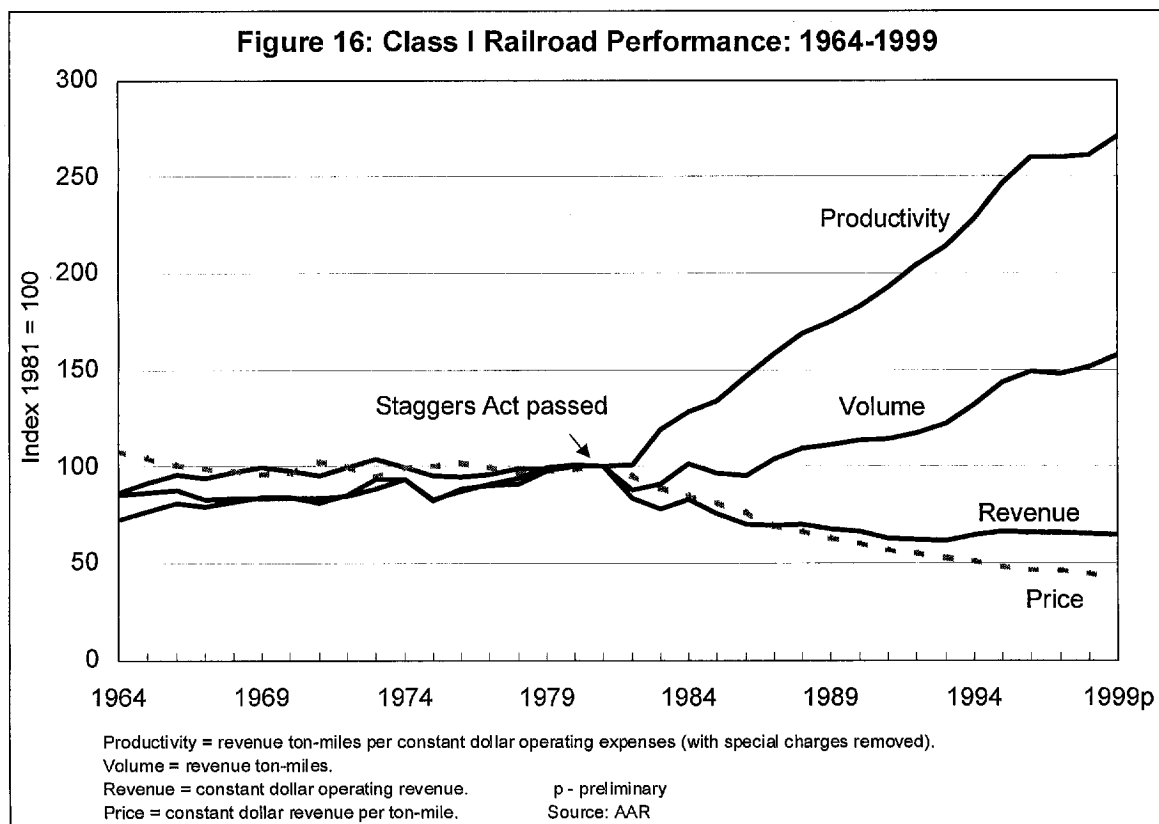
4. But at a rate of \$190, the grain elevator too would drop rail service. When it does so, the power plant alone would have to cover variable costs (\$100) and all of the railroad's fixed costs (\$180). All else being equal, either the power plant pays \$280 or the railroad goes out of business. Each shipper is ultimately worse off than it was under standard differential pricing.

Shipper	New Rail Rate	Variable Costs	Contribution to Fixed Costs	Change From Diff. Rate
Package company	\$160	\$100	\$60	+\$30
Grain elevator	\$190	\$100	\$90	+\$30
Power plant	\$280	\$100	\$180	+\$90
Total	\$280	\$100	\$180	+\$90

\*Any other regulatory or legislative action that arbitrarily forced the railroad to reduce its rate to the power plant would have the same effect.

## X. Conclusion

Figure 16 encapsulates the transformation of the railroad industry brought about by the Staggers Act. It also illustrates the benefits — to the railroads, shippers, and consumers — that would be lost through a return to an uneconomic system of regulation. It is a reminder of the past, and a warning to those who would reregulate the industry or impose additional regulatory requirements that would transfer revenues away from the railroads. Most of all, it is a tribute to a rail industry and a rail regulatory framework that have created a transportation system without equal.



## QUALIFICATIONS OF CRAIG F. ROCKEY

My name is Craig F. Rockey. I am Vice President of Policy for the Association of American Railroads (AAR), with offices located at 50 F Street, N.W., Washington, D.C. 20001. Among other responsibilities, my duties include the collection, analysis, and presentation of economic data related to railroads and their economic environment. One of my principal duties is conducting and supervising economic, financial, statistical and cost studies dealing with various aspects of the rail industry.

During my employment with the AAR, I have presented testimony before the Surface Transportation Board/Interstate Commerce Commission, Public Service Commission of Indiana, New York Department of Transportation, Ohio Public Utilities Commission, Pennsylvania Public Utility Commission, the West Virginia Public Service Commission, and the Illinois Department of Revenue. I routinely prepare and provide rail industry financial and cost data; oversee the creation of data bases, publications, and reports; and evaluate regulatory, legislative, and internal issues.

Preceding my employment with the AAR in April 1978, I was Senior Associate with the Washington, D.C.-based economic consulting firm of Snavely, King and Associates, Inc. In that capacity I was responsible for various feasibility studies, special reports, and submissions to federal, state, and private organizations.

I hold a Bachelor of Science degree in Transportation Economics for the University of Maryland and have undertaken related course work subsequently. I have articles published in transportation journals, have co-authored a book entitled Small Railroads, am a member of various professional organizations, and have consulted for railroads in Africa, Asia, and North America.

VERIFICATION

WASHINGTON, D.C. )  
 ) ss.  
 )

I, Craig F. Rockey, being duly sworn, state that I have read the foregoing statement, that I know its contents, and that those contents are true as stated.

  
CRAIG F. ROCKEY

Subscribed and sworn to before me this 15<sup>th</sup> day of May, 2000.

  
Notary Public

My Commission expires: December 14, 2002